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Broomhill, Central & Nether Edge Area Panel Thursday 15 May 2008

The Broomhill, Central and Nether Edge Tree Audit – Report Back 1 Background

1.1 The BCNE Tree Audit.

The BCNE Tree Audit is a survey and assessment of the Area's urban forest, undertaken to gather data on its make up, condition and extent. The intention was to use this data to inform future strategic management of the resource, particularly with regard to the prioritisation of replanting. It was already known that much of the Area's urban forest was in decline and there was uneven distribution of tree cover but detail on the extent of these issues was lacking. The Audit was also considered an essential pre-cursor to developing a community forestry project (subject to funding) to take forward an action plan to commence the process of tree renewal.

The Audit was carried out by the Trees & Woodlands Section of the City Council's Parks & Countryside Service. The surveyors undertaking the work audited each tree, usually from street level with the aid of aerial photography. This involved walking every street. Most of the trees were surveyed from the street although in some cases home owners invited the surveyors into their gardens.

The Audit covers all trees in the Area, not just those which are the responsibility of the Council.

1.2 Components of the Tree Audit

Essentially, the Audit involved the individual surveying, assessment and plotting of the Area's trees. This included all trees – ie private as well as public – and is a ground-breaking move away from the more traditional approach to tree management, which treats individual and groups of trees as separate entities divided by ownership, rather than one entire resource or urban forest. Tree size, species, location, distribution and longevity were all assessed and recorded.

At the same time, the Audit involved an assessment of available planting locations which could be exploited at a later date if a community forestry project was implemented. This element has proved difficult to quantify, largely because the majority of potential planting sites are private gardens and these are the hardest to realise in terms of replanting. Further, underground services can considerably hamper or prevent tree planting but this requires extensive further investigation to properly assess and was beyond the scope of the Audit.

1.3 Progress to date

The survey work and associated data collection has been completed. However, some data is still being inputted into a computer-based geographical information system; this information will be made available as soon as practicable. When this process is completed it will be passed electronically to the Area Panel for distribution.

2 Results of Audit

Below is a synopsis of the main information gathered by the Audit. Much of this has been broken down by ward. When data input is completed this information will be available on a neighbourhood level.

2.1 Numbers of Trees

Total number of trees surveyed – 50,752
Broomhill – 19,232
Central – 10,711
Nether Edge – 20,809

2.2 Tree Size

Table 1: Size Category (Height)

	Broomhill	Central	Nether Edge	Totals
Large	5181	1052	4305	10,538
Medium	6767	3722	7634	18,123
Small	7284	5937	8870	22,091
Totals	19,232	10,711	20,809	50,752

Large: 15m+ Medium: 7-15m Small: up to 7m

2.3 Longevity

Table 2: Longevity Category

	Broomhill	Central	Nether Edge	Totals
Long	6209	2497	6336	15,042
Medium	10,382	5450	11,781	27,613
Short	2641	2764	2692	8,097
Totals	19,232	10,711	20,809	50,752

Long: over 40 years

Medium: 10-40 years

Short: less than 10 years

2.4 Ownership

Tree ownership is roughly split 2/3 non-council to 1/3 council

Table 3: Tree cover by ownership

Owner/Manager	Tree numbers	Percentage of total
Private, non local authority		
Residential/Business/University	34,260	67%
Local authority		
Parks and Countryside Land	12,081	24%
Highways (Street Froce)	2,118	4%
City Centre	1,381	3%
Sheffield Homes	518	1%
Schools (CYPD managed)	394	<1%

2.5 Species

Numbers of each Species

40 main species were recorded plus a category of 'mixed' for one off trees. The ten most common species are listed below. These have been collated by manual sampling from survey sheets in lieu of completion of computer data input and represent 20% of total trees.

Table 4: The 10 most recorded species

Species	Number in sample	Estimated total number	% of tree cover
Sycamore	1,493	7,674	15.1
Lime	795	4,086	8.0
Ash	763	3,922	7.7
Holly	763	3,922	7.7
Beech	672	3,454	6.8
Cherry	666	3,423	6.7
Cypress*	661	3,398	6.7
Birch	637	3,274	6.4
Oak	529	2,719	5.4
Rowan	339	1,742	3.4

The 10 most common species make up 74% of all trees.

* Cypress includes all true and false Cypress including Lawson and Leylandii.

2.6 Species & Longevity

Table 5: Longevity within each species

Species	Long (% of species)	Medium (% of species)	Short (% of species)
Sycamore	34%	45%	21%
Lime*	21%	65%	14%
Ash	28%	44%	28%
Holly	21%	74%	5%
Beech	35%	50%	15%
Cherry	4%	83%	13%
Cypress	< 1%	98%	2%

Birch	8%	83%	9%
Oak	83%	12%	5%
Rowan	4%	87%	9%

Long: over 40 years: Medium: 10–40 years: Short: less than 10 years

Table 6 gives a clear indication of which species have the greater longevity in this urban environment. Of the 10 most common species, the Oak population offers by far the greatest value in terms of future longevity. Other large forest trees such as Sycamore and Beech also offer significant long term value and appear to be well suited to the environment. At the other end of the scale, species such as Cherry, Rowan and Cypress (Leylandii included) offer little in terms of extended longevity. Birch are also limited in this respect.

* Figures for Lime (*Tilia spp*) are surprisingly low in terms of longevity. However, it is probable that although this species is normally considered to have a long lifespan generally (200–300 years in some cases) many of those within the BCNE Area are already well into maturity having been planted in Victorian times, whilst most have been subjected to severe 'pruning' such as pollarding, a practice which encourages the entry of decay organisms and reduces life expectancy.

2.7 Tree Cover by Size

Table 6: Size Category (height) – percentages

	Broomhill	Central	Nether Edge	All BCNE
Large	27 %	10 %	21 %	21 %
Medium	35 %	35 %	37 %	36 %
Small	38 %	55 %	42 %	43 %

Large: 15m+ Medium: 7–15m Small: up to 7m

Table 7: Longevity Category – percentages

	Broomhill	Central	Nether Edge	All BCNE
Long	32 %	23 %	30 %	30 %
Medium	54 %	51 %	57 %	54 %
Short	14 %	26 %	13 %	16 %

Long: over 40 years Medium: 10–40 years Short: less than 10 years

2.8 Projected future losses:

The next 10 years

- Almost 8,000 trees will be lost over the BCNE Area within 10 years (an average rate of 800 per year).
- 27% of trees within the Central area have a short life expectancy (less than 10 years). This is compared to only 14% of trees in Broomhill and 13% of those in Nether Edge
- Opportunities for natural regeneration from seed are very limited – there are only 2 recognised areas of woodland in the entire Area. Therefore, replanting will be essential if the population is to be renewed.

The next 40 years

- Over the next 40 years we are likely to lose 70% of the trees that exist today – as many as 35,000 trees (an average rate of 880 per year). It takes newly planted trees as much as 40 years to establish and provide a significant contribution to the environment.

2.9 Street Trees

There are 2,118 street trees (those growing in the footpath or verge) within the BCNE area. Street trees are an important part of the urban forest and their typically prominent position can enhance the built landscape and provide character to an area to a greater extent than trees in gardens. The renewal of street trees is becoming increasingly difficult due to their harsh environment and competition with underground utilities.

The data for the existing street trees is as follows:

Table 9: Street Trees – Size

Size	Number of trees	Percentage of total street trees
Large	1269	60%
Medium	336	16%
Short	513	24%

Table 10: Street Trees – Longevity

	Number of trees	Percentage of total street trees
Long	250	12%
Medium	1545	73%

Short	323	15%
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2.10 Planting Opportunities

Planting opportunities need to be prioritised based on the following factors:

- Areas of low tree cover
- Areas with higher percentage existing trees with short life expectancy
- 'Easy win' planting sites

The ease of selecting sites and gaining permission for tree planting will depend to a large degree on the current ownership and use of the site. It makes sense to target resources initially at the easy win sites whilst opening dialogue/consultation over the more difficult sites. The following are considered 'easy win'

- Council land under Parks & Countryside management (parks & open spaces)
- Council land under Highways management (highway pavements and verges)
- Council land where tree maintenance is administered by P&C (Schools, Sheffield Homes, Neighbourhoods)

Over the past year Street Force have embarked on an ambitious tree planting/renewal programme. Whether this programme will continue under the PFI arrangement is still to be confirmed. New tree planting in footpaths is subject to many restrictions, not least the existence of underground services. In most cases it is safe to assume that streets with no existing or past tree cover are likely to be unsuitable for new planting. Nevertheless, it is highly likely that there are a number of potential planting sites on highways land. However, locating such sites will require more detailed investigations, which are beyond the scope of the Audit.

2.11 Other Issues Identified by the Audit

Several other issues have been identified, as previously reported:-

- Many of the large canopy trees in the Area are suffering from bad, unsightly pruning – there is a need for greater public awareness to reduce this damaging practice in future.
- Many of the existing young trees, especially in gardens, are not in the most appropriate locations and are unlikely to remain into old age because they will create nuisance and have to be removed. Once again, there is a need for greater public awareness – to encourage the planting of appropriate species in the right location.
- There is a general lack of maintenance of young trees across the board – both in the public and private sectors, including trees in open spaces, highways, private gardens and new developments. The same applies to semi-mature trees. The issue is that cheap, timely, routine maintenance and formative pruning after planting, will lead to higher survival rates and extended life expectancies and a marked reduction in expensive safety and nuisance-prevention work in the future. As with other issues, awareness raising is called for and this should be targeted both inside the Council and amongst local businesses and residents.

3 Developing an Action Plan

Recently, funding has been secured from the Sharrow Community Forum and the BCNE Area Panel to recruit a Community Forester for the Area and recruitment is currently in progress. This measure was absolutely essential to enable a Community Forestry Project to be created and an Action Plan to be developed. In brief, the following elements should be included within the Plan.

3.1 Complete Audit Data Inputting

This will be completed over the next few weeks. The data will then be developed to be accessible to the general public. Electronic and hard copies will be made available to the Panel for distribution. Hard copies could also be offered to libraries and other public/community buildings whilst details could also be added to the Council's web site.

The data will be used to develop and fine tune the Action Plan.

3.2 Develop Priority Planting Programme

Bearing the points mentioned in 2.10 above in mind, it is proposed this will be a three pronged approach, covering the whole Area, as follows:-

- The Sharrow Neighbourhood Management Area, where tree cover is so low, is considered a high priority and in urgent need of new planting to increase tree cover
- The city centre area is in urgent need of greening and is likely to be the location which will be most affected by climate change in terms of flooding and raised temperatures.
- The remaining neighbourhoods of the BCNE Area, where renewal is most urgently required to replace the declining Victorian tree heritage.

It is also very important to try and ensure that highway tree renewal is included in the impending Highways PFI.

3.3 Develop Service Level Agreement

An SLA needs developing with the Sharrow Neighbourhood Management Area and BCNE and outputs and targets created to ensure the Project delivers Value for Money.

3.4 Community Involvement

This is not simply a Council issue but one that, as owners of the urban forest, involves the entire local community. The Project is wholly dependent on the local community helping to define the planting programmes, getting involved and taking ownership. The following will, therefore, be pursued or investigated:

- Contact local groups in the Area to determine what interest there is in getting involved;
- Explore the potential for a tree warden scheme, where members of the public sign up for involvement in various activities involving trees;
- Provide opportunities for local residents to volunteer in tree planting and young tree maintenance projects;
- Undertake surveys to determine public attitude, likes, dislikes etc in relation to trees in the Area.

3.5 Raising Awareness

Community forestry is not just about the Council putting trees in the ground in conjunction with the local community. It is also about raising awareness amongst the local populace so they become more knowledgeable about environmental issues and the value of trees and also, hopefully, encouraging and enthusing them to plant their own trees independently, in the mid to longer term. Creating a high profile also helps when it comes to fund-raising and securing sponsorships.

Therefore, raising awareness is considered to be absolutely essential to the success of the Project. The following are proposed:-

- An education programme which will be offered to local schools;
- Tree/environmental events for schools and the public;
- Leaflets produced on tree maintenance techniques, tree species selection and tree value;
- An on-going media campaign to help with encouraging support and sponsorship.

4 Recommendations

It is recommended that the Panel approves the progression of the Community Forestry Project and the development of associated Action Plan, as outlined above.